## Art. XII.—*Further Descriptions of the Tertiary Polyzoa of Victoria.—Part V.*

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(With Plates XXIII., XXIV.)

[Read November, 8th 1900.]

### Cellaria grandis, n. sp. (Pl. XXIII., Fig. 1).

Zoarium compressed, ligulate, zooecia on each face. Zooecia quadrangular, diamond shaped; angles occasionally rounded; margins raised; surface minutely granular, much depressed. Thyrostome arched above, slightly incurved below; a small denticle at each side of lower lip. Avicularia situated at the distal end of zooecia; opening semicircular.

*Locality.*—Cape Otway (J. Dennant).

This is a very large species. I have two specimens, both imperfect at the ends, that from which the figure of the zooecia is drawn is half-an-inch long and one-eighth wide, both ends being broken; the other one is a quarter-of-an-inch long and three-sixteenths wide. There is a row of zooecia on the edge of the zoarium, in which respect it differs from the other flat species (*C. angustiloba*, *C. acutimarginata* and *C. biseriata*). The specimens are not very well preserved, only one of the zooecia showed the denticles inside the lower margin of the thyrostome (Fig. 1*a*).

### Cellaria contigua, McG., var. corioensis, nov. (Pl. XXIII., Fig. 2).

Zoarium cylindrical. Zooecia elongated, hexagonal, upper and lower extremities broad; arranged quincuncially, surface depressed; margins very narrow and thin. Thyrostome lofty, with a thin raised margin; lower lip incurved, with an internal denticle on each side. Avicularia vicarious, of the same size as

the zooecia, pointed at the distal end and slightly encroaching on the zooecium above; the two upper margins incurved, mandible pointing upwards.

*Locality.*—Corio Bay (T. S. Hall).

The zooecia are very like those of the typical *C. contigua*, but the avicularia are different; they are more like those of *C. dennanti;* they are as large as, and take the place of, a zooecium; they are upright, or parallel to the axis of the zoarium, whereas those of the type are only about half the length of a zooecium and are always slanting either to the right or left, being placed between the sloping sides of the zooecia. Fig. 2 shows the avicularia somewhat in side view; this portion of the zoarium was chosen for illustration as there were three zooecia it it which had the thyrostomes perfect; in most of them the thyrostome is either imperfect or obscured by the matrix. Fig. 2*a* shows the front view of another avicularium.

This may be a new species but I prefer at present to treat it as a variety of *C. contigua.*

### Melicerita elliptica, n. sp. (Pl. XXIII., Fig. 3).

Zoarium compressed, ligulate, zooecia on both faces. Zooecia elongated, hexagonal, with upper and lower margins transverse; occasionally they are pointed distally and are then five-sided; Surface granulated, margins raised. Thyrostome elliptical. Avicularia cucullate, situated on the proximal part of the zooecia.

*Locality.*—Aire Coastal Beds (Messrs. Hall and Pritchard).

I have several specimens, but the one from which the figure is taken is the only one which shows avicularia; they are situated in an uncommon position, being on the surface of the zooecium and not vicarious. As the thyrostome differs from those of the *Cellariae* in being elliptical and having no internal denticles and as it is similar to that of *Melicerita dubia*, Busk (C.P. xxx., p. 97, pl. xxxiii., fig. 10), I provisionally place it in the same genus.

### Cellaria gigantea, n. sp. (Pl. XXIII., Fig. 4).

Zoarium large, cylindrical. Zooecia very large, irregularly hexagonal, margins raised; distal margin arched, lateral margins

almost in a continuous curve, angle only just perceptible; surface sunken and granular. Thyrostome arched above, nearly straight below; margins raised, a broad narrow plate inside lower margin, and a thick broad process depending from the inside of the upper margin.

*Locality.*—Mitchell River (J. Dennant).

This I place in *Cellaria* on account of the plates projecting internally from the upper and lower margins of the thyrostome; had not these been present I would have placed it in *Macropora*. One specimen shows that it probably branched dichotomously.

### Membranipora bellis, n. sp. (Pl. XXIII., Fig. 5).

Zoarium encrusting. Zooecia oval, with narrow raised margins, upper margin incurved; several (6·10) irregular, more or less branched spines on upper margin. A large capitate avicularium on one side of the zooecia with a large boat-shaped base, or cell, which bears upon the outer surface tubercles and spines.

*Locality.*—Lower beds, Muddy Creek (J. Dennant).

This species resembles *M. intermedia* (Kirkpatrick), as the avicularia are covered with tubercles, but the shape of the zooecium is different, the upper margin being incurved, the number of spines on the upper margin is greater, being from 6 to 10 instead of 2; the avicularia are different, being directed upwards, bearing short spines as well as tubercles, and not having a branching spine growing out of the lower portion.

### Membranipora globulosa, n. sp. (Pl. XXIII., Fig. 6).

Zoarium encrusting. Zooecia irregularly oval, with narrow raised margins. Two spines on the distal end with a branching spine on one side directed downwards over the aperture Avicularia opening upwards, with a branching spine directed upwards from the surface, margins of mandibular chamber raised, outside smooth. Ooecia globose, wider than high, covered with small tubercles.

*Locality.*—Lower beds, Muddy Creek (J. Dennant).

This is very near *M. intermedia*, but the avicularia face upwards and the outside is smooth.

### Membranipora radicifera, Hincks, sp. (Pl. XXIII., Fig. 7).

I give a figure of a specimen of this species as it bears an ooecium, which is not mentioned by Dr. MacGillivray in his monograph, and also for comparison with the figures of *M. bellis* and *M. globulosa*.

*Locality*.—Balcombe Bay, Mornington (T. S. Hall).

These last three species and *M. intermedia* are closely allied, but they appear to me to be specifically distinct.

### Membranipora aviculifera, n. sp. (Pl. XXIII., Fig. 8).

Zoarium encrusting. Zooecia oval; opesia oval, occupying nearly two-thirds of area, narrow raised margins. Four spines on distal border; proximal part depressed. Ooecium galeate, much raised, with a subtriangular smooth depressed area in front, bordered by two narrow ridges with a narrow depressed space between them; surmounted by 1·3 (?) avicularia.

*Locality*.—Aire Coastal Beds (Messrs. Hall and Pritchard).

This species, although the zooecia are not quite perfectly preserved, is very distinct by reason of the ooecia being surmounted by avicularia, which is a very uncommon occurrence. There are three ooecia in the specimen figured (the only one found), and they vary. The one on the left hand, at the top, has apparently three avicularia, or, as the mandibular cavities are not visible, they may be only blunt spines. The one on the right hand has apparently two, although these may be, for the same reason as in the other, merely spines, the depressed area between the ridges on the front is triangular. Upon the third one (on the right side nearer the bottom) there is a subcapitate avicularium on a short stem with a triangular mandibular area. The zooecium on the extreme left hand, at the top of the figure, is the only one in which the opesia and margin appear to be perfect; in addition to the four spines it bears a thick blunt one protruding from below the distal margin, which appears to be free, it probably was the last zooecium formed. Below the opesia in most of them is a hemispherical cavity, which I think possibly may be the basal wall of an ooecium, the ooecium itself being broken off.

**Membranipora longipes**, n. sp. (Pl. XXIII., Fig. 9).

Zoarium encrusting. Zooecia quincuncial, racquet-shaped, with very long narrow proximal part, surface finely granulated, margins raised, smooth. Opesia subtriangular or sub-quadrate, the lower margin descends rather abruptly, and there is a short broad extension downwards into the cavity of the zooecium. A small oval avicularium with broad mandible at the base of the zooecia.

*Localities.*—Mornington (T. S. Hall); Aire Coastal Beds (Messrs. Hall and Pritchard).

The specimen figured is a single one from Mornington. I afterwards found several specimens in the Aire Coastal Beds deposit. It bears a resemblance to *M. cochleare* (McG.), but is distinguished therefrom by the very long narrow proximal portion, its smooth margins, and by the presence of the avicularia, these vary somewhat in shape; there are three in the specimen, one is quite oval, one is chlithridiate, and the other has a small projection or denticle on each side. The edge broken away on the right hand side shows that there are 4 "communication pores" on the lateral walls of the zooecia.

**Membranipora regularis**, n. sp. (Pl. XXIV., Fig. 10).

Zoarium cylindrical. Zooecia elongated hexagonal, quincuncially arranged, about six in lateral series; margins raised, smooth; area sloping downwards, granular; opesia oval, small, depressed, situated near the distal end.

*Localities.*—Mitchell River (J. Dennant); Aire Coastal Beds (Messrs. Hall and Pritchard).

There were a few not very well preserved specimens in the Mitchell River deposit, but it is very plentiful in the Aire Coastal Beds deposit, and in a very perfect state of preservation. The zooecia are remarkable for being very regular in shape. The zoarium occasionally breaks up longitudinally, with two or three zooecia in single series, the sides and back are thus exposed, and show four "communication pores" on the lateral walls; the cross section is triangular, and on the internal angle are the curious processes shown in figure "*a*," which look like small chambers, two (or a double one) on the distal and one on the proximal half.

### Membranipora porcellana, n. sp. (Pl. XXIV., Fig. 11).

Zoarium unilaminate, but folded. Zooecia indistinct; opesia oval and circular, with narrow raised smooth margins; surface smooth porcellaneous. Avicularia hour-glass shaped, vicarious.

*Locality.*—Clifton Bank, Muddy Creek (T. S. Hall).

This is a very distinct form. The zoarium is unilaminate, apparently cylindrical, but it is coiled round an imaginary axis; the opesia of the inner coil can be seen through those of the outer one. The zooecia are undefined, and the opesia occupy almost the whole of the area. The avicularia are hour-glass shaped and vicarious.

### Amphiblestrum planulatum, n. sp. (Pl. XXIV., Fig. 12).

Zoarium bilaminate, ligulate. Zooecia elongated, distal portion oval, proximal quadrangular, with a narrow raised border; opesia oval, with finely granulated raised margins. Avicularia, two below opesia, one above, occasionally one or two others on the quadrangular area. Ooecia galeate, with flattened area in front.

*Locality.*—Aire Coastal Beds (Messrs. Hall and Pritchard).

This is very plentiful in the deposit, and varies considerably in the shape of the zooecia, owing to the flat quadrangular area being in some cases reduced to a very small space.

### Amphiblestrum variabile, n. sp. (Pl. XXIV., Fig. 13).

Zoarium encrusting. Zooecia irregularly disposed, oval or pyriform, surface smooth; opesia oval, occupying nearly two-thirds of the area, surrounded by a row of about 20 spines. A small avicularium below, immersed, with oval transverse mandible. Ooecium (?) irregular in shape, with an irregular opening.

*Locality.*—Lower beds, Muddy Creek (J. Dennant).

This species somewhat resembles *Membranipora geminata*, Waters, but the extension of the zooecia below the opesia and the avicularium show it to be different. I take the irregular cell with the elongated opening to be an ooecium, as it differs from the zooecia in the margin being smooth, without any spines, and it has no avicularium.

**Amphiblestrum sexspinosum**, n. sp. (Pl. XXIV., Fig. 14).

Zoarium cylindrical. Zooecia quincuncial, four in lateral series, pyriform, surface finely granulated; opesia large, oval, occupying half the length of the zooecia, margin raised, with three large, blunt spines on each side; proximal area narrow, with slightly elevated margin. Avicularia situated close to proximal margin of opesia, edges raised, proximal more than distal, with transverse subspatulate mandible opening upwards. Ooecium galeate, raised, granular.

*Locality.*—Aire Coastal Beds (Messrs. Hall and Pritchard).

This is very numerous in the deposit, but on only one specimen (Fig. 14*a*) was there an ooecium, and the form of the avicularia are better seen in it than in the other specimen figured.

**Amphiblestrum ovatum**, n. sp. (Pl. XXIV., Fig. 15).

Zoarium cylindrical. Zooecia quincuncial, six in lateral series, spatulate in shape, surface smooth; area elliptical, with highly raised margins; opesia oval.

*Locality.*—Aire Coastal Beds (Messrs. Hall and Pritchard).

This species is remarkable for the very regular elliptical area and smooth porcellaneous surface.

**Amphiblestrum moniliferum**, n. sp. (Pl. XXIV., Fig. 16).

Zoarium encrusting. Zooecia elongated, oval; surface granular; opesia occupying three-fourths of area, oval, with rather rugose raised margins bearing about fifteen blunt spines which are connected with each other by a narrow raised ridge that expands and surrounds the base of each spine. Avicularia vicarious, nearly as large as a zooecium, with long, acute, slightly curved mandible.

*Locality.*—Aire Coastal Beds (Messrs. Hall and Pritchard).

The large vicarious avicularia and the connecting ridge between the spines are very distinctive.

**Amphiblestrum nitidum**, n. sp. (Pl. XXIV., Fig. 17).

Zoarium cylindrical. Zooecia oval, quincuncially arranged, six or eight in lateral series; opesia oval or subtriangular, with

raised margins, sloping inwards. Ooecia galeate, smooth, with slight radiating lines on the face.

*Locality.*—Aire Coastal Beds (Messrs. Hall and Pritchard).

The ooecium on the right hand lower part of the figure shows a separate aperture; in the others this part has broken away.

## DESCRIPTION OF PLATES XXIII. AND XXIV.

Fig. 1. Cellaria grandis.
„ 2. Cellaria contigua (var. corioensis).
„ 3. Melicerita elliptica
„ 4. Cellaria gigantea.
„ 5. Membranipora bellis.
„ 6. Membranipora globulosa.
„ 7. Membranipora radicifera.
„ 8. Membranipora aviculifera.
„ 9. Membranipora longipes.
„ 10. Membranipora regularis ("*a*," side view).
„ 11. Membranipora porcellana.
„ 12. Amphiblestrum planulatum ("*a*," ooecium).
„ 13. Amphiblestrum variabile.
„ 14. Amphiblestrum sexspinosum.
„ 14*a*. Amphiblestrum sexspinosum (with ooecium).
„ 15. Amphiblestrum ovatum.
„ 16. Amphiblestrum moniliferum.
„ 17. Amphiblestrum nitidum.